



Intra-aortic balloon pump treatment for patients with acute anterior wall myocardial infarction after reperfusion therapy

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ABSTRACT. We evaluated the effects of an intra-aortic balloon pump on hemodynamics, brain natriuretic peptide concentration and cardiac function of patients with acute myocardial infarction, after reperfusion therapy. Sixty-three patients with acute anterior wall ST-elevation myocardial infarction who underwent primary percutaneous coronary intervention were given an intra-aortic balloon pump (32 cases) or not (control group, 31 cases). The mean pulmonary arterial pressure, pulmonary capillary wedge pressure and cardiac index were measured with a Swan-Ganz catheter. The brain natriuretic peptide concentration was detected by immunochemiluminometric assay. Left ventricular end-diastolic diameter and left ventricular ejection fraction were measured by echocardiography. No difference in baseline was observed between the two groups on day 1 in the hospital. On day 5, mean pulmonary artery pressure and pulmonary capillary wedge pressure of

patients with the intra-aortic balloon pump were significantly lower, and cardiac index of was higher than that of the controls, whereas no differences in left ventricular end-diastolic diameter or left ventricular ejection fraction were observed between the two groups. On days 5 and 90, the brain natriuretic peptide concentration of the intra-aortic balloon pump patients was lower than that of the controls. On day 90, left ventricular end-diastolic diameter was smaller in the intra-aortic balloon pump patients, but no difference in left ventricular ejection fraction was observed between the two groups. The intra-aortic balloon pump improved the hemodynamic index and cardiac function and decreased brain natriuretic peptide concentration in patients with acute anterior wall ST-elevation myocardial infarction.

Key words: Swan-ganz catheter; Brain natriuretic peptide; Acute myocardial infarction; Intra-aortic balloon pump; Left ventricular end-diastolic diameter; Left ventricular ejection fraction